F·A·A·M facility for airborne atmospheric measurements

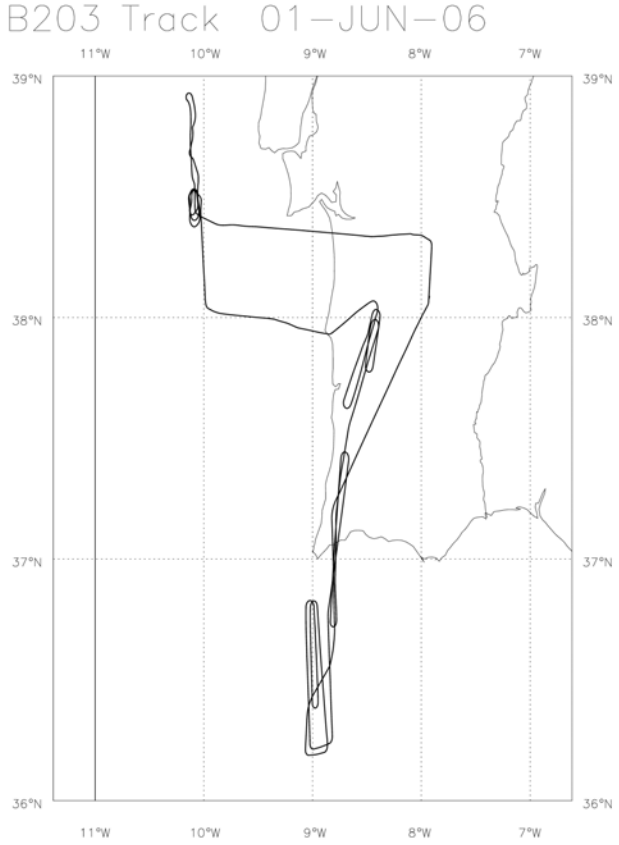
FLIGHT FOLDER

Flight No.:	B203
Date:	1st Jun 2006
Take Off	10:33:32
Landing:	14:40:49
Flight Time	4h07m17

Campaign: CLAPREC / NEON
Trials Instructions:
Operating Area: S.W. of Iberian Peninsular, SW Portugal

POB	Position	Name	Institute
1	Captain	Alan Foster	Directflight
2	Co-pilot	Alan Roberts	Directflight
3	CCM	Gaynor Ottaway	Directflight
4	Mission Scientist	Dave Kindred	Met Office
5	Flight Manager	Steve Devereau	FAAM
6	Cloud physics	Paul James	FAAM
7	ARIES/IR Camera	Joss Kent	Met Office
8	MARSS	James Bowles	Met Office
9	SWS	Ian Rule	Met Office
10	CCN	Bruce Giddings	Met Office
11	CVI	Jeff Brown	Met Office
12	Wet Neph	Andy Wilson	Met Office
13	Filters / CCM2	Doug Anderson	FAAM
14	Core Chemistry	Kate Turnbull	FAAM
15	VPRACOP 1	Fernando Carvalho	Instituto Technologico e Nuclear, Sacavem
16	AEROPOR1	Sergio Pereira	University of Evora
17	CLAPREC1	Danny Rosenfeld	Hebrew University of Jerusalem
18	CLAPREC2	Suzanna Mendes	University of Evora

Flight Track:

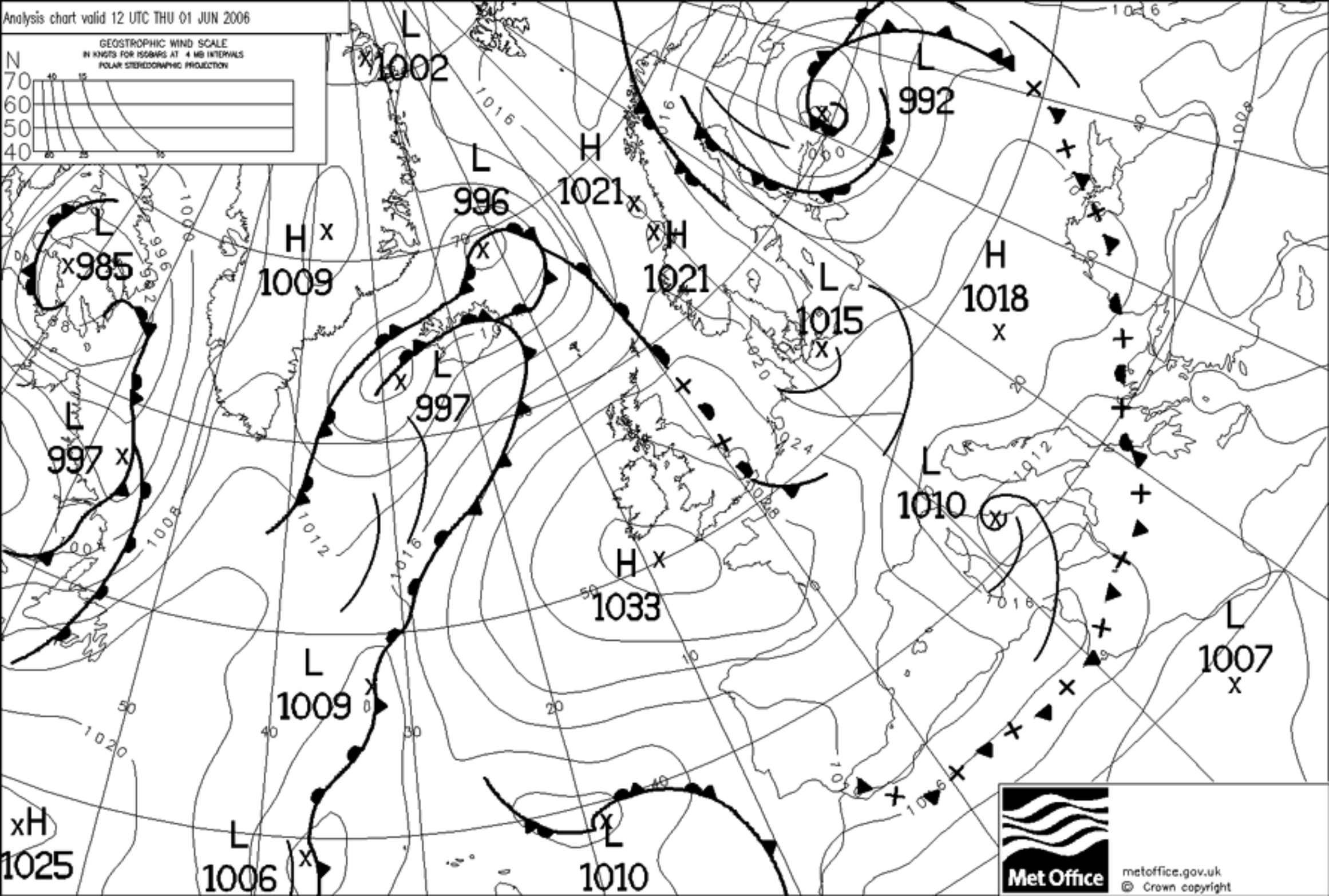


FLIGHT SUMMARY

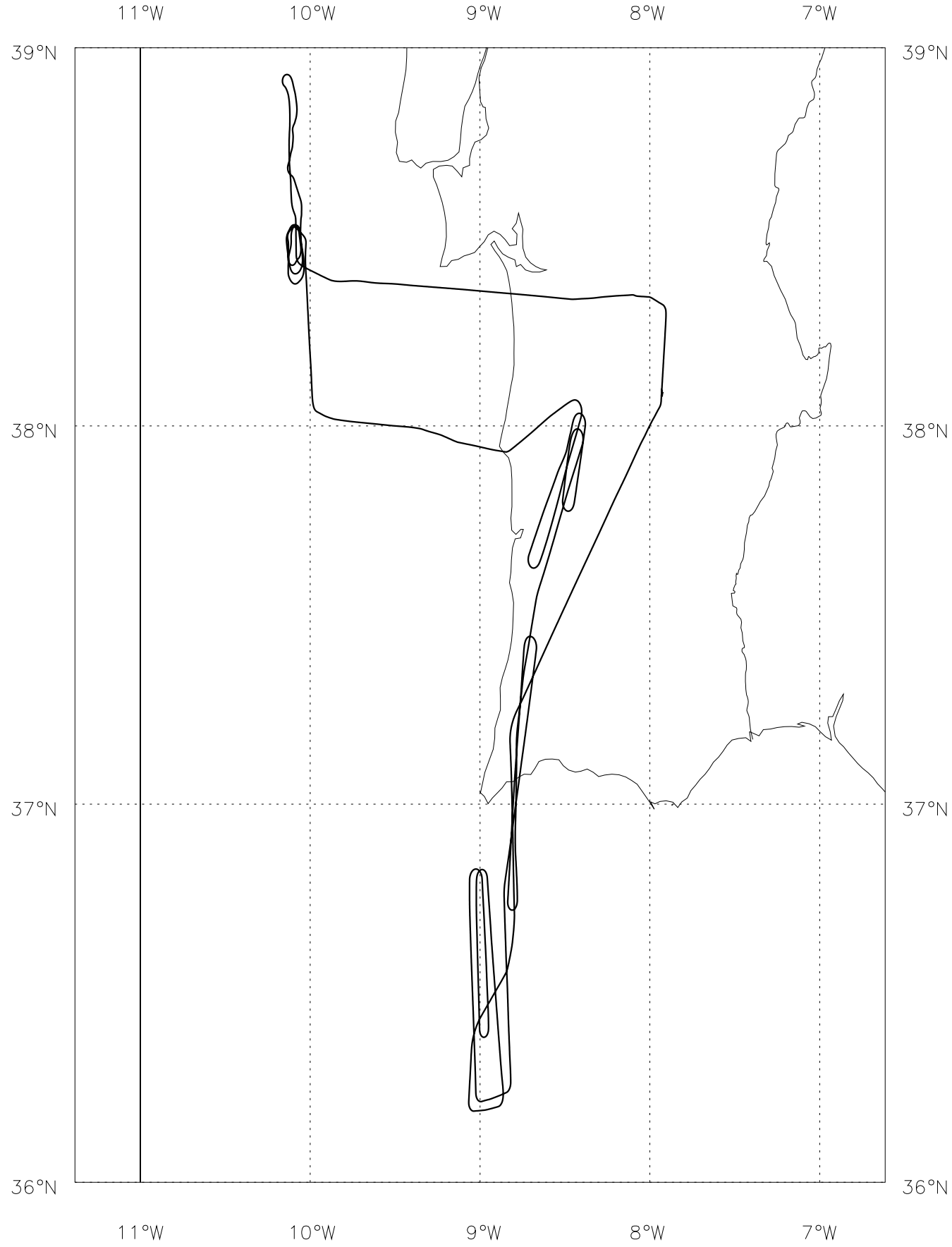
Flight No B203
Date: 01 June 2006
Project: CAPEX (CLAPREC and NEON)
Location: SW and W Portuguese coastal areas

Start Time	End Time	Event	Height (s)	Hdg	Comments
102411		taxy	0.48 kft	118	
103332		T/O	0.94 kft	185	
103846		DLU reset	8.0 kft	219	Deiced T prob.
103949		asp open	8.0 kft	218	
104027		JW zero	8.0 kft	219	
104058		Nevzorov zero	8.0 kft	219	
104442		start videos	8.0 kft	219	
104859	110348	Profile 1	8.0 - -.10 kft	218	
110401	111608	Profile 2	-.02 - 5.3 kft	353	
110909		interrupt Profile 2	2.8 kft	225	
111014		recommence P2	2.9 kft	090	
111151		interrupt P2	3.8 kft	084	
111300		recommence P2	3.8 kft	349	
112254	112433	Run 1.1	2.2 kft	181	2400 ft radalt
112340		start Heimann cal	2.2 kft	179	
112516	112921	Profile 3	2.2 - 0.81 kft	176	
112653		retract LBBR cover	1.5 kft	177	
112711		interrupt profile 3	1.3 kft	176	
112743		Recommence P3	1.3 kft	176	
113051	113710	Run 2.1	0.85 - 0.82 kft	001	radalt 1000ft
113152		start Heimann cal	0.82 kft	356	radalt 1000ft
113843	114456	Run 2.2	0.84 - 0.79 kft	179	
114654	115822	Profile 4	0.84 - 5.5 kft	176	
114835		interrupt Profile 4	1.8 kft	175	
114925		recommence Profile 4	1.8 kft	082	
115114		interrupt Profile 4	2.8 kft	078	
115216		recommence Profile 4	2.8 kft	357	
115824	120344	start run 3	5.5 kft	357	
120026		start Heimann cal	5.5 kft	016	
120344	120917	Run 4	5.5 kft	014	
121126	122230	Profile 5	5.5 - 0.91 kft	185	
121158		start FFC tape 2	5.2 kft	186	
122903	124415	Run 5	1.9 - 1.8 kft	003	
123109		Heimann cal	1.9 kft	014	over land
125029	125941	Profile 6	1.8 - 5.5 kft	017	
125322		interrupt P6	3.4 kft	015	3500
125509		recommence P6	3.4 kft	198	
130048	130150	Profile 7	5.7 - 6.0 kft	209	
130343	130920	Run 6	6.0 - 6.1 kft	031	
131055	131535	Profile 8	6.1 - 3.5 kft	249	
131457		video change	3.8 kft	241	DFC to IR spotter
132202		video	1.2 kft	275	time stamp
132818		video	4.8 kft	271	time stamp
133052		video	2.2 kft	351	time stamp
133240		video	0.84 kft	355	time stamp
133432		video	0.81 kft	355	time stamp
133600		Heimann cal	0.81 kft	355	
133632		video	0.84 kft	354	time stamp
133738		video	0.83 kft	006	time stamp
133832		video	0.86 kft	298	time stamp at ship
134028		video	0.83 kft	184	time stamp at ship
134225		video	0.79 kft	349	time stamp
134245		video	0.83 kft	348	time stamp at ship
134524		video	0.85 kft	166	time stamp at ship
134751		video	0.86 kft	349	time stamp at ship
135104		Video	2.6 kft	180	time stamp at ship
135144		heimann cal	2.3 kft	135	
135338		video	2.5 kft	350	time stamp at ship
135543		video	2.3 kft	358	time stamp at ship
135703		video	2.3 kft	317	time stamp at ship

135910	video	2.7 kft	356 time stamp at ship
140014	video	3.4 kft	012 time stamp at ship
140437	video	4.8 kft	180 time stamp at ship
140515	video	4.8 kft	179 time stamp at ship
140819	video	4.8 kft	158 time stamp at ship
144049	Land	0.46 kft	185
144722	park posn	0.46 kft	113 38 05.13 N 07 55.65 W

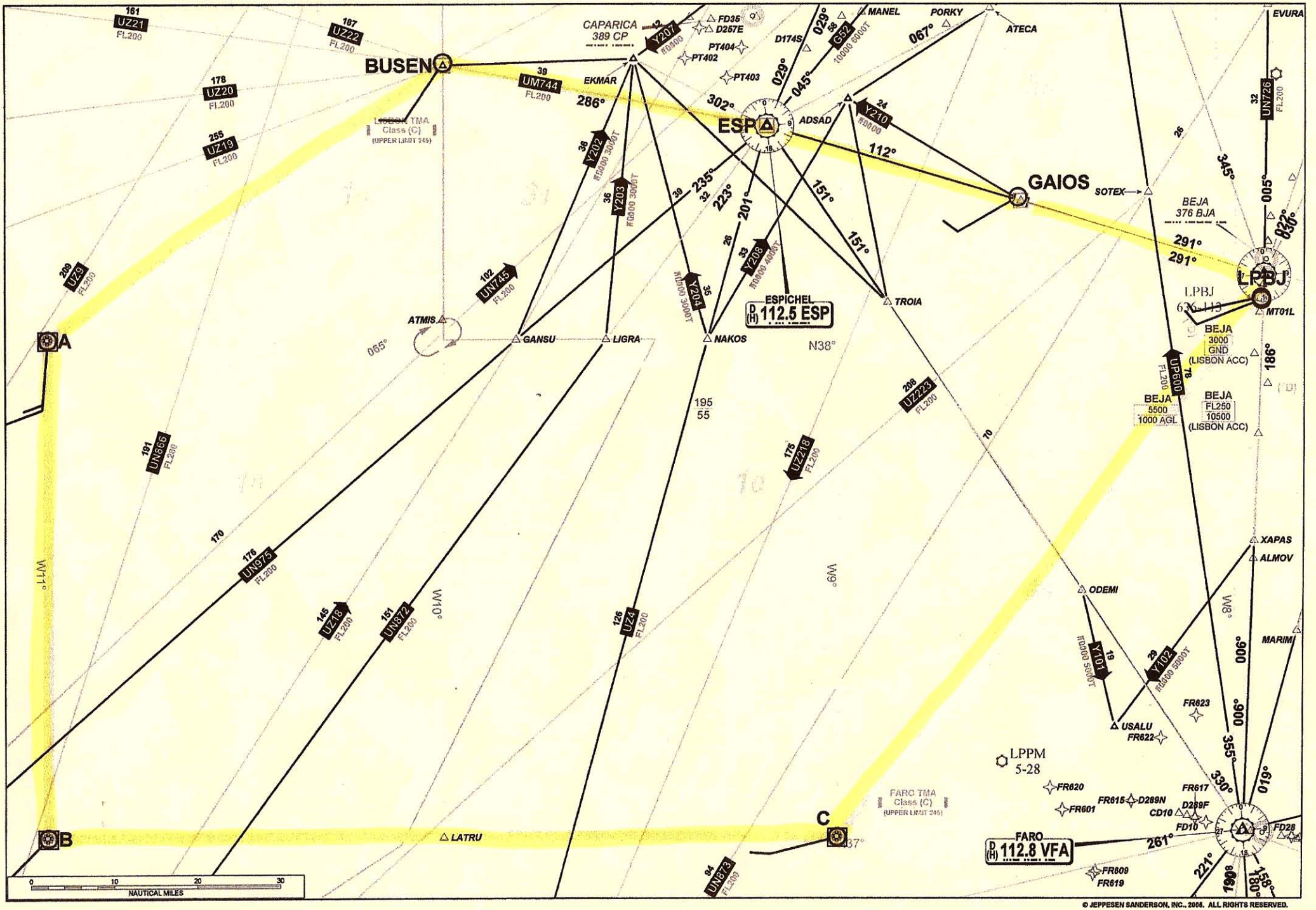

Analysis chart valid 12 UTC THU 01 JUN 2006
GEOSTROPHIC WIND SCALE
IN KNOTS FOR ISOBARS AT 4 MB INTERVALS
POLAR STEREOGRAPHIC PROJECTION
N
70
60
50
40
L 1002
L 992
L 996
H 1021
H 1009
H 1021
L 985
L 1015
H 1018
L 997
L 997
H 1033
L 1010
L 1009
L 1007
H 1025
L 1006
L 1010
Met Office
metoffice.gov.uk
© Crown copyright

B203 Track 01-JUN-06



LPBJ -> LPPT - Overview
NavData Cycle 2006-5 Expires: Thursday, 08 June 2006.
Scale: 1:1062982 (1 inch = 14.58 naut mi). Printed on 01 Jun 2006

JEPPESEN
FliteStar 9.160



SORTIE BRIEF

Flight number. B203 1 June 2006

Take-off: 1030 Z (1130 L)
Land: 1500 Z (1600 L)

Programme: EUFAR (European Fleet for Airborne Research)

Project: CAPEX (Clouds and Aerosol over Portugal Experiment) May/June 2006

SORTIE 3: **Aerosol Cloud Interaction Sortie** (Mainly CLAPREC).

Conditions/Weather:

Convective cloud conditions required over selected areas (land/sea). Ideally, the first 'selected' cloud field would be over the sea, the second over land but near the coast, and the third over the Portuguese interior.

Trial Objectives:

- To measure cloud microstructure (and precipitation forming processes).
- To document aerosols from natural & anthropogenic sources & relate these to cloud composition (and precipitation processes).

Location:

Central/S. Portugal, over land, or off W Portugal coast.

Flight Pattern:

1. Depart Beja and transit at about FL 200 to first selected area with suitable convective cloud field over water. (25 min).

2. Profile descent into selected cloud field area. Perform profile descent, at 1000 ft/min (but 500 ft/min below FL050) to lowest permitted level. (25 min).

3. Perform 10 minute S&L run at lowest permitted altitude for SST measurement, ARIES & HEIMAN calibrations. SWS will characterise surface reflectance. Orientated across wind. (15 min).

4. For this cloud field :
   (a) Profile to 500ft below cloud base and fly S&L run (about 5 min), likely oriented along wind direction/shear (manifested by the direction of cloud tilting).
   (b) Climb, turn onto reciprocal, and fly run (5 min) just in cloud base.
   (c) Climb, turn onto reciprocal, and fly runs (each 5 min) at regularly spaced height intervals through the cloud (as decided by Aircraft Scientist). There would be typically 1-3 runs through this (likely shallow) cumulus cloud.
   (d) Climb, turn onto reciprocal, and fly run (5 min) just in cloud tops.
   (e) Climb, then fly 2xS&L reciprocal runs (each 5 min) at 1000 ft above cloud tops (particularly for radiation instrument cals SWS/SHIMS/ARIES).

   Note I: Depending on separation between cloud cells heading changes between clouds may be made to increase the number of cloud penetrations during runs (b), (c) and (d). Actual cloud penetrations must be flown straight and level.

   Note II: The above runs (a) – (e) should be generally along the wind direction/shear. (30 min).

5. Transit to second ‘selected’ cloud field (likely position over land, near coast), and repeat sections 2-4 above. (Ideally moderate Cu field).

(80 min).

6. Transit to third ‘selected’ cloud field (likely position over land, interior), and repeat sections 2-4 above. (Ideally mod/well developed Cu/Cb field).

(80 min).

7. If the cloud fields over the sea and inland (near coast) are not present, then perform sections 2-4, as above, for two distinct and separate interior (land) cloud fields. These will be located at different latitudes, and be decided by Aircraft Scientist, preferably in areas with contrasting aerosol properties eg downwind of Barreiro, Setubal or Lisbon pollution plumes, and downwind of sparsely populated coastal areas..

8. Recover to Beja. (10 min).

SORTIE BRIEF

Flight B... (NEON flight during CAPEX) **... June 2006**

Trial Objectives

1. To validate the NEON TDA using the IR camera looking at a runway
2. Measure infra-red signature of a ship and the corresponding ship wake with the IR camera.

Take off

Late a.m. or early p.m. local time.

Location

1. Over and nearby a runway.
2. Over the Sea.

Weather

1. Ideally: Totally cloud free conditions, flights around lunch time.
2. Cloud-free is preferred, but not necessary.

Instrumentation Required

IR camera, core temperature, water vapour, ARIES, Heimann, aerosol instruments (PCASP)

Special Conditions

Note that in order to keep the runway in the field of view of the IR camera all altitudes will need to be flown at exact heights above the surface and not at flight levels.

Flight Pattern (see Fig. 1)

1. Take off and transit to airfield/runway, to arrive at 10,000ft.

--- Over/nearby runway----------

2. 1st PROFILE = descent at 1,000ft/min to minimum altitude (if possible with a missed approach at the operating airfield)
3. 1st HAL (see Fig. 2) = runs at 500ft, sequence: over and along runway, loop, displaced to runway over grass/ravel path next to runway; note special needs for ARIES and Heimann
4. 20-degree approaches (see Fig. 3), i.e. straight and level runs at 1000ft, 3000ft, 5000ft, and 10,000ft (getting the runway into the field of view of the IR camera)
5. 2nd PROFILE, identical to point 2 (if possible without extra costs then include another missed approach at the operating airfield)
6. 2nd HAL

--- Over the Sea ----------

7. Search a larger ship (e.g. a tanker)
8. Close up to the ship to take IR cam pictures: Fly at altitudes of 1000, 3000, 5000 and 10000ft above the ship, thereby getting the ship + the ship wake in the field of view of the IR camera

---

9. Transit back.
10. Landing.

Total time: about [redacted] hours

10

Mission Scientist Debriefing Sheet

Flight No. B203 1. CLAPREC (Cu/Sc layer over SW Portugal) – part flight, about 2.5 hours.
Date: 1/06/2006 2. NEON – ship chasing, West of Lisbon – part flight, about 1.5 hours.

Assessment of the Flight:

Overall, a moderately successful flight.

For CLAPREC (Clouds, Aerosol and Precipitation - part of CAPEX project group), low cloud layers (Cu/Sc & Sc layer above) were worked over SW tip of Portugal, and the area just to S of this (over sea), and over land, the near coastal area to N & NE of this SW tip, generally between 36 – 38 deg N, and 8.5 to 9.0 deg W.
After T/O from Beja at 1034z, we transited to the operational area at medium level, starting with a profile descent, at 500ft/min, from FL080 to 50 ft (heading SW, then S) finishing over water. Profile P2 (heading S, then E, then N) began immediately following, 50 ft to about 500 ft above cloud (5500ft) ; cloud base was around 1200 ft, tops about 4700 ft. We then descended (P3) to 500 ft below cloud, at 500 ft/min, finishing at 1000 ft. Runs 2.1 & 2.2 were then completed at 1000 ft, heading N, then S, 5 mins each leg, giving a chance to get full CCN sample at this height, and to co-ordinate ARIES/SWS/HEIMANN viewing angles. Further profiles (P4 to P8) through the selected cloud layers, and runs R3/R4 (above cloud at FL055), R5 (below cloud at 2000 ft) and R6 (above cloud at 6000 ft) were the made. We completed CLAPREC coasting out just S. of Sines, heading W, at about 3500 ft.

For NEON, we transited out W, then N to an area centred approx. 38.5 N, 9.5 W. Passes were made (mainly abeam) of various large vessels to test the IR camera - looking slantwise to port at the vessel, and its wake. Times (GMT) of nearest passes were made at 133733, 133833, 134027, 134239, 134515, 134530, and 134747 from 1000ft; at 135056, 135341, 135540, 135707, and 135908 from 2500ft/3000ft; at 140016 from 3500ft; and at 140312 and 1408 from 5000 ft.
There followed a return transit at FL100 toBeja, landing at 1440z.

Instrument problems: DI Temp went intermittently ‘off-scale’- this affected the displayed M Sc laptop values of Tephigram Dry-Bulb Temp display, and the calculated wind speed/direction. SATCOM message receipt/transmissions were slow. Some CCN problems, especially towards end of CLAPREC part of sortie.

Summary of weather conditions:

Surface low pressure system to SW of SW tip of Portugal, but anticyclonic flow becoming established from the N over N Iberia.
Two cloud layers (generally 2/8 to 7/8 Cu/Sc layer, base 1200 ft, merging at times with mainly 7/8 to 8/8 Sc layer above, tops 4,700 ft to 5,500 ft) were worked for CLAPREC. For NEON, layer Sc (base about 3000 ft) became more broken in operational area to the N. Generally hazy below cloud layers.

Winds light (< 15 kt) and mainly from S/SW (up to 5000 ft).

DRK.
01/06/06

Mission Scientist's Log

[CLAREC + NEON].
(Short-lived version)

Flight No **B**.203..... Date 1 June 2006. (1/6/06) Page 1 of 6.

GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
1025					Start Taxi (Beja).
1034					T/O Beja (RW 19)
					6-7/8 Cu/Sc above (clear above).
1036					Cloud base ~4000'.
1037.					Cloud tops 5000'.
104659	P1↓	FL080	220°	37°12'N 8°42W	Start P1 · 8000' ↓. Wind
		FL075			208°/3-4m/sec
105325	P1↓	FL058	177°	37.0N 8°42'W	New heading S on P1. 180°/7m/sec
					Uniform Cu/Sc layer (8/8) below. NIL cloud above
					(base
105540	P1↓	4700'	177°	36°46'N 8°42'W	Entering cloud now (DI Temp intermittently off-scale).
		3600'			Gap in cloud here. Sc layer above. Cu/Sc below.
105940	P1↓	2100'			Into Cu now.
					Sea surface visible below.
1101	P1				Main Cu base ~1000-1200' lowest (indistinct).
110348	50' / Start P2	50'	225°	36°24'N 8°54W	End P1, Start P2 climb at 500'/min to get above cloud. straight but forwards
					Entering cloud now
110909	P2↗	2.8kft	181°	36°6'N 9°0'W.	Interrupt P2
111014	P2↗	2.9kft	089°	36°6'N 8°54'W	Reconnect P2 heading E
		3.5kft			Passing thro Cu, More homogeneous Sc layer above
111151		3.8kft	089	36°12'N 8°46'W	Interrupt P2 at 4800'

cc

Mission Scientist's Log

Flight No **B**...203... Date ...1/6/06... Page 2 of 6...

GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
111300	P2↗	3.8kft	351°	36°12'N 8°48'W.	Recommence P2
111608	P2↗	5500'.			End P2.
					Descend to 500' below cloud.
					for next run (racetrack).
112114					Clear of Cloud at 2800'.
112254	R1.1	:			Start of Run 1.1.
112433	End R1.1.	(Aborted run).			End Run 1.1 [
112516	P3	500'.			Commence P1. to 1000'.
112743	P3				P3 replaced to descend to 1000'.
112921	P3end	1000'	5.	36°18'N 8°54'W.	End P3 & turn onto North
					for Racetrack pattern.
113051	Run2.1	0.8kft (1000' on radalt).	356°	36°24'N 8°54'W	Start Run2.1 at 1000' (1021)
113240					Passing ~500' under Cu base now. (lowest in area).
113335				2-3/8	Ragged Cu above, 8/8 Sc layer further above.
113531					(HEIMAN/SWS cals now)
113710	End Run2.1				End Run 2.1.
113843	Start 2.2.	0.7kft (970' 1021).	178°	36°12'N 9°0'W	Start Run 2.2.
114456					End Run 2.2.
114654	START P4	1.0kft	175°	36°12'N 9°0W	Start Profile P4
114835	P4	1.7kft	East	36°12'N 9°A'W.	Interrupt P4 & head ↳ onto E
114925					Recommence P4 200' ↑ 300'
115114.	P4	2.8kft		36°12'N 8°48'W	Interrupt P4 at 300'
115216	P4	2.8kft	356°	36°12'N 8°48'W	Recommence P4 @ 300
	←	4800'	cloud	top.	Out of cloud now, end P4 at 5500'.

115524. P4/start R3 FL055 } 22

End P4 at FL055 (1013 mb) 8/8 Cu Sc below

Mission Scientist's Log

Flight No **B**203 Date 1/6/06 Page 3 of 6

GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
120344	End Run 3	Over coast	now		End R3 (over sea) & go immediately into
"	Start Run 4	5.5kft	014°	37°12'N 8°43'W	Start R4 (over LAND) Wind 158°/9 m/sec.
120917	Run 4	5.5kft	335°	37°24'N 8°36'W	End Run 4
121126	P5	5.5kft	186°	37°18'N 8°42'W	Start P5. ~~Into cloud on part of~~ ~~cloud base ascent~~ [500'/min]
1216.	←	3.1kft			Below C. Base generally near
122230.	End P5	1000'	S	—	End P5 at S end over water.
					Will set up for 10 min run over land
					if possible 500' under C. base
122903	Start R5	1.8kft	003°	37°3'N 8°43'W	Start Run 5 (just over coast) (Pressure height 2000', 1013).
					CCN leaving on this run.
			Change to		← 230°/8kt.
124055			030°		Extend run 5 (over land) for Met Neph.
124300	R5	1.8kft	030	37°48'N 8°24'W.	CCN has problems on this run
124415.	End R5	1.8kft		37°54 8°24'W	End Run 5 ~~Turn onto NNE~~
125029	P6	1.8kft	015°	37°48'N 8°24'W	Start P6. Turn onto NNE to capture lowest Cu base (500'/min)
					Cloud base — into cloud now.
125322	P6 Interrupt	3500' (3.3kft)	015°	37°54'N 8°18	Interrupt P6 at 3500' & turning S onto 330° to complete P6.
125509	P6 Recomm.		200°	37°54'N 8°24'W	Recommence P6
125605		3.8kft (4000') (1013).	→		Into cloud now 4000'.
					Cloud tops 5300'-5400'.
					End P6
130048					~~Recommence~~ Start P7 for FL060.
1300	End P7.	6.0kft	SW	37°36'N 8°36'W	End P7 at FL060.
130343	Start R6	6.0kft	032°	37°36'N 8°36'W	Start R6. 8/8 SC layer below (and Cu ~~patches~~). 1/8 Ac above.

13~~08~~ 06

Two cloud tops (Cu)

Mission Scientist's Log

Flight No **B** 203 Date 1 June 2006 Page 4 of 6

GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
130920					End R6
131055	START P8.	6.0.	240°		Start P8 to 3000'
131535	END P8	3.2kft.		37°54'N 9°48'W	End P8. (First S. of Sines over Portugal W. coast).
					Continue to descent to ~1000'.
START NEAR FLYING.		←			TRANSIT AT LOW LEVEL TO START
					'SHIP CHASING' WSW of LISBON.
		1000'.	(ORIENTATION OF	WNW	Sc SHEET ESE).
132117			→	to	FRIGATE 1 SIDE / DESTROYER OTHER SIDE. PREPARING IR CAMERA.
	TRANSITING	W,	THEN N		AROUND 'DANGER' AREA.
				BEFORE	GETTING INTO CLOSER AIR FOR NEAR
132706	TRANSIT W FOR NEAR	↑ 7kft	271°	38°0'N 9°42'W	8/8 Sc below. [D.I TEMP OK ✓]
		Start descending	thro' cloud		CLEAR ABOVE. for ship track.
132920.		↑ 3kft (1000 mb).	→		Into cloud
		1800' 1000	→	Braking	Cloud Levelling now at 1000'.
133430					At 1000', still under Sc cloud looking for (a) Cloud to break (b) Ships.
133610			→		Under main Sc sheet edge now.
					[redacted]
133783			→		o/h Ship #1 here (smaller)
					Turning ↰ for next (Larger) ship.
					(GRAIN CARRIER)
133833		0.8kft (1000 ft) (1000 mb)	→	38°24'N 10°6'W	o/h ship #2 ① Turning ↰ for 2nd pass at 1000'. (smoke)
134027		0.8kft	178°	38°24 10°6'W	o/h ship #2 ② Some cloud above.
134239		0.8kft.	347°.		Alongside ship #2. (parallel)

Mission Scientist's Log

Flight No B 203 Date 1/6/06 Page 5 of 6

FAAM © 2004

GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
134515		→	ship #2		Good wake of ship for next pass.
134530		→	" #3.		Good Thermal Difference seen.
					(Partly cloudy 5/8 Sc).
134747		1000' →	ship #2.		alongside ship again. Good wake.
[illegible]		Climb	to 3000'	for	next IR camera shots.
135040		Descend	Slightly	to keep	under cloud.
135056		2800'	174°	38°18 N 10°6 W.	"½ ship" here – (heading into cloud towards S).
		.			seen on IR. Descend to 2500' to keep clear of
					cloud.
135233		2500' →			Head onto ship for next run.
135341.					Abreast of ship
1		~~2500'~~			
135540		2500' Different T			Small coaster to Port. (● abeam)
135707		~~(2 Slight A/C Heading)~~ 2500'			Crossing Stern / wake of next (larger)
					Container ship.
135908		3000'.	✓ good contact.		Abeam now. climb to 3500'
140016		3500'	✓ V. good.		Next large vessel abeam now. Climb to 5000'
					3/8 Cu Sc to south, generally clear to NORTH for next pass.
140312		5000'	175°	38° 18' N 10° 06' W	Abeam now! Wind 150°/8m/sec
					Few patches Cu below staying at FL050.
140[illegible]		5000'	180°.	38° 36 N 10° 6 W.	Final pass.
		END OF SCIENCE FOR NOW.			Climb for FL100 & RTB at Beja.
141350	TRANSIT RETURN	10.0 kft.	091°	38°18 N 9°43' W	Return (over water) towards Beja.

TO BEJA. 10000 ft (1013).

+1 large 1/8 Cu (Cong) ahead otherwise 1/8 Cu below → clear of cloud.

At this level for min 10-15 mins for FILTER SAMPLE

1440.

Mission Scientist's Log

Flight No B...203... Date ...1/6/06... Page 6 of 6

GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
1424 15			→		2/8 Sc. below. Line of Cu/Cb ahead. ~~[illegible]~~ (tops ~15000').
					~60 nm ahead
1424 35	TRANSIT RETURN	10.0 kft	093°	38° 18'N 8° 48'W	
1430			←		Into cloud just above FL070 on descent
1433					C. Base ~4000'.
1440					LAND BEJA.
1034					
~~4 hr 06 m~~		FLIGHT TIME			

CLOUD PHYSICS LOG Flight B188

Date: 1/6/06	Operator: papj	DRS Time: 07:35:00	DAU1 Time: +1	DAU2 Time: +0	DAU3 Time: -3	Aux1 Time: +0	Aux2 Time: +0	Page 1 of 2

G.M.T	PCASP		FFSSP	SID1	SID2	2D2-C		2D2-P		CIP25			CIP100			Habit	Remarks
	Conc/cc	Mean R	Block TX	Count	Count	Conc/L	Max size	Conc/m3	Max size	Conc m3	Max size	LWC	Conc m3	Max size	LWC		
																	Sid 2 in the fifi full particles were lost and the concentration level was exceeded.. laser power 12 mW, the detector voltage 9.5 Kv
1056	440	0.18	37	4000		180	200			.37	1356	37					
110348																	Start p2
110540	470	0.09	38	20	9					0.43	2240	104					010
110909	370	0.09	38	80	20					0.34	1670	46					
110000																	Fssp reset had problems for about 20 mins fifos dropped out
112254	400	0.09	1	90	10					0.14	800	6.26					Start run 1.1
																	End run
113051	450	0.09	39	20	8					0.17	1640	30					Start run 2.1
1135	500	0.09	39	80	10					0.32	1700	60					
113843	500	0.09	40	80	10					0.38	1700	60					2.2
1142	550	0.09	40	80	10					0.34	1300	60					
114456																	End run
114654	500	0.09	40	100	20					0.36	1300	35					Strart p4
1150	550	0.1	113	1000	9000	50	200			0.33	1400	40					
1154	400	0.1	177	4000	10000												
1155630	450	0.13	400														
115824																	Start run 3
1200	160	0.1	0	50	1000					0.06	600	1					Ffssp restart
1203	200	0.1	0	50	10000					0.05	500	1					
1208	200	0.09	0	40						0.04	470	1					Continued to run 4
120917																	End run 4
121106	200	0.1															Start p
1213	430	0.1	63	3000		20	100			0.05	400	1					
1216	400	0.09	176	80	10												
1219	400	0.09	176	90	10					0.03	400	0.4					
122230																	End p5
122903	400	0.08	177	40	5					0.04	400	0.5					
1233	500	0.09	177	80	8					0.04	400	0.7					
1236	500	0.09	177	50	5					0.05	500	1					
1242	400	0.09	177	30	5					0.04	500	2					
124415																	End run 5
125029	450	0.09	177	40	5					0.06	600	0.1					Start p6
1256	500	0.1	178	1000	9					.26	600	5					
1259	340	0.09	427														
125941																	End p6
130048																	Start p7
1308	180	0.1	428	10						0.01	360	.3					
131535																	End p

CLOUD PHYSICS LOG Flight B188

Date: 1/6/06	Operator: papj	DRS Time: 07:35:00	DAU1 Time: +1	DAU2 Time: +0	DAU3 Time: -3	Aux1 Time: +0	Aux2 Time: +0	Page 2 of 2

G.M.T	PCASP		FFSSP	SID1	SID2	2D2-C		2D2-P		CIP25			CIP100			Habit	Remarks
	Conc/cc	Mean R	Block TX	Count	Count	Conc/L	Max size	Conc/m3	Max size	Conc m3	Max size	LWC	Conc m3	Max size	LWC		
			M6x warning (MT_TIME_STAMP_ERROR): A time-stamp inconsistency has been detected.														
	PCASP Flowrate = 1.8 CC/Sec PCASP noisy at times at height probably due to heater fail FFSSP off for most of the flight due to overheat SID2 off for most of the flight due to excessive noise Some 2DC images of dust Word crashed so some loss of log																

FLIGHT NUMBER: B203	DATE: 01/06/06	OPERATOR: B. GIDDINGS	Page 2 of 2
PROJECT:			

CCN LOG

ALLEVIATOR GMT ON	OFF	HEIGHT	TEMP INLET	1	2	STATIC 3	4	5		REMARKS
										RUN 1
11:22:55	11:23:30	2400'		1.75	2.5	3.5	4.25	5.5		
									S	Aborted
									D	
									B	
									R	
									P	
		1000'	23.35	0.17	0.31	0.48	0.69	1.05	S	RUN
11 3051	113124		22.61	416	555	810	979	1290	D	2.1
			21.86	425	408	395	374	367	B	2.2
			21.13	2210	2220	2225	2232	2233	R	
			19.85	1000.5	1000.1	1000.1	1000.1	1000.1	P	
				1.75	2.5	3.5	4.25	5.5		
12:29:03	12:29:40	2000'	23.55	0.16	0.31	0.49	0.71	1.01	S	RUN 5
			22.40	651	613	802	1037	1303	D	
			20.57	614	512	436	425	395	B	ANALYZED
			20.38	2213	2217	2222	2224	2224	R	after end of run
				997.8	997.6	997.6	997.7	997.7	P	in climb 6600
13:30:10	13:30:44		22.47	0.17	0.32	0.56	0.71	1.07	S	
			21.74	654	886	1230	931	542	D	
			20.36	497	469	443	419	409	B	
			20.18	2195	2198	2200	2196	2200	R	
			19.16	999.9	999.9	999.9	999.8	999.8	P	
				1.75	2.5	3.5	4.25	5.5		
134320	134400		22.48	0.17	0.31	0.49	0.71	1.08	S	CLIMBING
			21.51	545	689	1235	598	1831	D	TO 3000'
			20.73	443	422	406	392	397	B	AFTER
			19.85	2192	2195	2201	2208	2206	R	SAMPLE
			18.86	1000.00	999.9	999.9	999.9	999.9	P	TAKEN
									S	
									D	
									B	
									R	
									P	
				1.75	2.5	3.5	4.25	5.5		
									S	
									D	
									B	
									R	
									P	
									S	
									D	
									B	
									R	
									P	

Microwave Radiometers FLIGHT LOG	Date	1/6/06	Flight	B203	log pages	
Operator(s)	JB		Campaign	CAPEX		
Departure	Beja		Arrival	Beja		

System start

MARSS

Visual pod inspection						•
Close 3 SSP circuit breakers						•
Close all MARSS circuit breakers						•
FERA on				at time	09:27	
Temperature controller initial temps	Ch16	20°C	Ch 17	20°C	Ch18	20°C
Temperature controller set points		54°C		58°C	-20	40°C
MARSS CPU on				at time	9:32	
Initial target temperatures	Hot	291.0		Cold	295.0	
Target heating						•
*** CHECK SCAN HEAD CLEAR ***						•
Scanning on (LMD box)				at time	09:34	
Scan indication		Monitor	•		Visual	•

Deimos

Close all Deimos circuit breakers	Not Fitted			
Turn on Deimos CPU				
*** CHECK SCAN HEAD CLEAR ***				
Start Deimos Software			at time	
Initial target temperatures	Hot		Cold	
Target heating				
Scan indication		Monitor		Visual
Weather	Cloud		Precip	
	Surface		Pressure	
	Other			

System functionality check

(after initial system warmup, approx 1 hour)

PC to DRS Time error		$t_{PC}=t_{DRS}$ +	0		at time	09:32:40			
Brightness temps 'sensible'									•
Target temps	MARSS:	Hot	344.49		Cold	299.18			
	Deimos:	Hot			Cold				
Channel gains 'sensible'		Ch1 A (-)	Ch3 A (-)	Ch1 B (-)	Ch3 B (-)				
		Ch16 (40-44)	Ch17 (45-49)	Ch18 (40-44)	Ch19 (40-44)	Ch20 (44-48)			
		39.5	34.1	37.2	40.7	41.6			

Power changeover

Headset on before start		•
Listen to engine start sequence	4, 3, 2, 1.	•
LMD off (3 switches, bottom to top)		•
Exit Deimos Software (x)		
POWER CHANGEOVER		
LMD on (3 switches, top to bottom)	then pushbutton	•
Restart Deimos Software		
System running again	at time	

Flight #	B	Date		Operator(s)		log page	2	of	3

Time	Run id	Alt/FL	*Remarks*	Sys
09:37	**Prefli**		Late ferra power on as late power on a/c	
09:37	**Pre**		Ch16 missing on power up	
09:53	**prefli**		Ch16 up and running!	
10:20	**prefl**		Ch16 gains missing on marss pc display?	
10:34	**Trans**		No sig change in ch16 counts	
10:37-10:43	**Trans**		3 ch.16 power cycles, but no recovery	
10:47	**Trans**		8 sc below	
10:48:59	**P1**		From fl080	
10:55:07	**P1**		In cloud	
11:01:30	**P1**		Under cloud 8sc, over sea	
11:03:48	**P2**		Climb from 50ft	
11:07:43	**P2**		In cloud cu, sc above this	
11:09:09	**P2**		Profile interupt & turn	
11:11:51	**P2**		“”	
11:14:17	**P2**		Above sc, clear above	
11:18:50			In cloud, none profile descent	
11:20			Clear below	
11:22:24	**R1**		Race track, 5min runs, aborted soon due to cld	
11:24:36	**P3**		In cloud, descending to look for cloud base	
11:29:21	**Eop3**		& turning	
11:30:51	**R2.1**	**1000ft**	Race track runs below 2cu & 8sc above.	
11:37:10	**R2**		Turn	
11:38:43	**R2.2**		Smooth sea	
11:44:56	**Eor2.2**		About to climb for porpoise through cloud	
11:46:44	**P4**		Climb	
11:49:25	**P4**		Turn and in cloud	
11:51:14	**P4**		Turn above cu & below sc	
11:56:30	**P4**		Above 8sc clear above maybe thin cs	
11:58:24	**R3.1**	**5500**	Still over sea, runwill finnish over land	
12:09			Turning	
12:11:26	**P5**		Descent	
12:13:30			In cloud	
12:14:50			8Sc above broken cu below	
12:16:50			Land to sea	
12:19			Clear below, calm sea	
12:22:30	**eop**		& turn @ 1000ft	
12:29:03	**R5**		Sea to land @ start of run clear below cu&sc above	
12:32			Mountains below	
12:44:15	**eor**		Clear below, cu/8sc above	
12:48:50			Turning	
12:50:29	**P6**		Climb to above cloud	
12:53:22			Turning just under cloud base	

12:56:10		into cloud base
12:59:40		above cloud clear above
13:01:30		turning during P7
13:03:43	R6	
13:06	r6	scurting cloud tops clearabove
13:09:20	eor	turn for descent to ship hunting
13:10:55	p7	
13:15:35	eop	

Flight #	B	Date		Operator(s)		log page	3	of	3

Time	Run id	Alt/FL	*Remarks*	Sys
13:15:56			land to sea	
14:43:50			marss pc at 14:43:59	
14:45:00			marss laptop 14:44:20	

SWS FLIGHT LOG SHEET

Flight #	B203	Date	01/06/06	Operator(s)	Ian Rule	log page	1	of	

Time	Run id	Alt/FL	Mirr Pos	Int Times		Remarks
				Vis	NIR	
0956						System too cold (+8), NIR's not working
0958						Date and time set on laptop, rack pc time set automatically
1010						NIR's still not working, (+11)
103335						Take off Beja, insufficient time to set up SWS video today
104101		8000'	shims	50	100	Shims nir not working, temp =16
104330		8000'	Zen +6	100	200	Sws vis and nir ok
1105	P2	^	Nad - 6	500	1000	Sws view of sea in profile
1110	P2	^	shims	50	100	Shims nir not working
112255	R1.1	2400'	Zen +6	50	200	Sws view of cloud base, run aborted, in cloud
113051	R2.1	1000'	Zen +6	30	200	View of cloud base, shims not working
113332	R2.1	1000'	shims	100	200	Shims nir now working
113710						End run
113844	R2.2	1000'	Zen +6	30	200	
114254	R2.2	1000'	Nad - 6	500	1000	Switch sws to nad
114457						End run
114720	P4	^	Zen + 6	30	200	In profile
1157			shims	50	200	Changed integ time
115818		FL55				End profile
115855	R3	FL55	Nad - 6	30	200	View of cloud tops
120743	R3	FL55	Zen + 6	30	200	Switch to zen
120916			Zen + 6	30	200	End run, sws still running
121126	P5		shims	50	200	Profile down
122232		1000'				End profile
122905	R5	2000'	Zen + 6	30	200	Run under cloud , over land
123953	R5	2000'	Nad - 6	500	1000	View of land
124233	R5	2000'	Zen + 6	30	200	Switch back to zen
1243	R5	2000'	shims	50	200	Shims ok
124417						End run
125030	P6	^	Zen + 6	30	200	Stepped profile
1251	P6	^	shims	50	200	Shims ok
125941		FL55				End profile
130325	R	FL60	Nad - 6	30	200	View of cloud tops
130920						End run
131230						End of sws requirement on this sortie, instruments off
144050						Land Beja

P.S.A.P. Log

Flight No. **B**.....203... Date 01/06/06..... Page ..... of .....

GMT	Filter Trans.	Flow Rate	B_a x 10^{-6}	Ph_det levels		Run	Remarks
Set to DRS time	New filter Tr = 1.000	Set to 3.0 lpm				(30s) ? Ave = s	←Preflight
100522	1.00	3.0	9.8	19	45	30	ok
141130	0.855	3		16	44	30	data stop

Filter Sampling Log

Flight No: B203 **Date:** 1 Jun 2006 **Operator:** Doug / Fernando

Type of filters mounted in	Top inlet	AC 90mm	Bottom inlet	AC 90mm

Run No	Disk #1 TOP	Disk #3 BOTTOM	Disk #3 BOTTOM	Inlet Top/ Bottom	Time On (Z)	Time On (Z)	Flight Run	Accum Vol [l]	Comments
Transit	AC1	empty	empty	Top	11:03:	-	-	-	Water in air sample pipe inlet polluting filters
Transit	AC2	empty	empty	Bottom	11:03:	-	-	-	Water in air sample pipe inlet polluting filters
Filters run1	AC3	empty	empty	Top	11:04:	11:15:30		626	Good
Filters run1	AC4	empty	empty	Bottom	11:04:	11:15:30		912	Broken filter during sampling
Filters run2a	AC5	empty	empty	Top	-	-	-	-	Not loaded
Filters run2a	AC6	empty	empty	Bottom	11:22:54 change 11:30:51 11:38:43	11:24:33 of level 11:37:10 11:44:56	R1.1 R2.1 R2.2	290))1267	500' below cloud run R1.1 R1.1 11:22:54 to 11:24:33 (2400 ft radalt) Reduced altitude to correct for cloud base R2.1 11:30:51 to 11:37:10 (radalt 1000ft) R2.2 11:38:43 to 11:44:56 (radalt 1000ft) Good sample
Filters run 2b	AC7	empty	empty	Top	11:59:48	12:11:28	R3 & R4	673	R3 & R4 FL055 (500' above cloud) Good
Filters run 2b	AC8	empty	empty	Bottom	12:29:03 12:45:52	12:44:15 12:48:32	R5 Post R5	807 140	2000' radalt continued at same level after end of R5 so sample pipes reopened, flow reset to zero and measurements continued on same AC filter Good
Filters run 3	AC9	empty	empty	Top	13:03:00	13:10:59	R6	895	Good
Filters run 4	AC10	empty	empty	Bottom	14:13:08	14:29:08	transit	1440	Return transit at FL100, both sample pipes opened AC10 boken filter on removal, part missing. AC11 good
Filters run 4	AC11	empty	empty	Top	14:13:08	14:29:08	transit	707	

CH1 N1 Z1 IR-Fax

ARIES flight log

Flight: B203 | Location: BEJA, Portugal | page 1 of

Date: 1/6/06 | Operator(s): Joss Henn. | Resolution: 1 | Gain A: 2 B: 2

Notes: Shakedown flight for CAPEX

DRS time	Flight ptrn	Filename	Shtr	HBB	CBB	Mir.	Det.	Win	Macro(s)	Comments
0940	Started flight recording.									
HBB	temp set = 70°C		actual = 70.8°C			CBB =	32.7°C	when set	to 30°C. Reset to 20°C	
1044	Scan	rate stored	changing to	60	scans/mon.					
~~1125~~										
112546	Prgm.	B203G								
112925	Bunk	B203H	Clsd.	71.0	26.4	21.1	-190.6	31.6	CH2	Scan rate = 230 scans/mon
113114	R2.1	B203I	Open	70.9	26.9	21.4			Z1 x5.	1000'
113352	R2.1	B203J	Open	70.6	29.2	22.5	-189.6	29.3	Z1 x2	230 scans/mon.
113532	R2.1	B203K	Clsd.						N1 x2	" "
113703	R2.1	B203L	Clsd.	70.8	29.2	22.5			CH2	" "
113836	R2.2	B203M	Clsd.						CH1	
113929	R2.2	B203N	Open	69.9	29.3	22.8	-189.9	30.1	Z1 x6	
114234	R2.2	B2030	Clsd	70.6	30.9	22.9	-189.9	29.1	N1 x2	" "
114411	R2.2	B203P	Clsd	70.8	30.8	23.0	-189.9	29.6	CH2	" "
115817	R3.1	B203Q	Clsd	70.9	28.3	22.0	-190.6	31.5	CH2	" "
115936	R3.1	B203R	Clsd	71.0	28.8	21.6	-189.9	31.4	N1 x4	" "
120148	R3.1	B203S	Open	70.4	28.5	21.0	-190.6	36.2	Z1 x2	" "
120306	R3.1	B203T	Clsd.						CH2	" "
120442	R3.2	B203U	Clsd	70.9	28.6	21.0	-189.9	30.1	N1 x6	

ARIES flight log

Flight: B203 | Location: BESA, Portugal | page of

Date: 1/6/66 | Operator(s): Jess/Kara | Resolution: 2 | Gain A: 2 B: 2

Notes:

DRS time	Flight ptrn	Filename	Shtr	HBB	CBB	Mir.	Det.	Win	Macro(s)	Comments
120804	~~R3-Z4~~	B203V	open	70-5	28-8	20-7	-189-9	29-1	~~Z~~1 x 2	240 scans/min
120927	~~R3-Z4~~	B203W	clsd	70-9	29-4	20-4	-189		CH2	" "
122244	End P5	B203X	clsd	70-9	27-2	21-0	-189-9	30-9	CH2	" "
123016	P5	B203Y	clsd	71-0	30-2	21-6	-190	31-1	CH2	
123146	RS	B203Z	open	71-0					Z1 x4	forgot shutter e start!
123359	RS	B203Ø	clsd	70-9	30-7	21-4	-189	29-2	N1 x 2	
123517	RS	B2031	clsd	70-8	30-3	21-7			CH2	
123703	RS	B2032	open	70-4	30-3	21-9	-189-9	29-7	Z1 x 4	
123921	RS	~~B2033~~	clsd	70-1	31-3	21-8			N1 x 2	
124043	RS	B2034	clsd						CH2	
124210	RS	B2035	open	70-6	31-0	22-2			Z1	
??	RS	B2036	open	70-7	31-6	22-9			Z1 x4	End of run overran
124507	end RS	B2037	clsd	71-1	32-2	23-3	-189-9	29-7	CH2	
130841	K6	B2038	clsd	70-8	28-7	21-8	-189-9	21-9	CH2	
— ARIES works fine on										

Wet Nephelometer Log

Flight No **B** 203 Date 01/06/06 Operator's name: Wilson Page 1 of 2

GMT	Run	Height	Sample flow	Dry neph RH	Wet neph RH	Temp ramp	T_{water}	Remarks
110348	P2	100ft ↗	13.5	63.1	68	↗		Ramping up in profile
111608	P2	5300ft	11.5	31	82		40°C	
112254	R1.1	2000ft	12.8	56	86	~~↗~~ –		start R1.1
112433	R1.1	2000ft	13.4	56	86			end R1.1
113056	R2.1	1000ft	13.5	63	82	↘	40°C	start R2.1 ramping down from +40°C water temp.
113520	R2.1	1000ft	13.3	64.7	67.6	↘	24°C	
113710	R2.1	1000ft	13.5	67	68	↗	24°C	ramping back to +40°C : end R2.1
113843	R2.2	1000ft	13.5	64	82	↗		start R2.2 @ 1000ft heading 177 deg.
114456	R2.2	1000ft	13.3	58	86			end R2.2. Aerosol growth factors of 80% observed.
114654	P4	10000ft ↗						
114835	P4	17000ft						interrupt P4
114925	P4		12.7	61	88	–	40°C	restart P4
115114	P4	28000ft						interrupt P4
115216	P4	28000ft	12.2	54	87	–	40C	restart P4
115824	R3	FLOSS	12.7	33.7	85	↘	40°	start R3. Ramping down to +14C.
120344	R3	FLOSS					15C	end R3
120401	R4	FLOSS				–	15C	start R4
120913	R4	FLOSS	14.7				15°C	end R4
121126	P5	FLOSS ↘						start P5 ↘ 500ft below cloud base.
~~122315~~	P5	1000ft	14.3	60	55	↗	14°C	?? end P5 @ 1000ft.

122250

Wet Nephelometer Log

Flight No **B** 203 Date 01/06/06 Operator's name: Wilson Page 2 of 2

GMT	Run	Height	Sample flow	Dry neph RH	Wet neph RH	Temp ramp	T_{water}	Remarks
122903	R5	2000ft 1800ft	13.9	57	82	→	40c	
123124	R5	2000ft	14.0	60	82	↘	40	ramping down to +15c. Bumpy!
123708	R5	2000ft	13.8	59	59	↗	19c	set temp to 40°C
124415	R5	2000ft	13.9	57	88		42c	end run R5. W:D ratios of 1-5 observed this run.
124800		2000ft	13.7	56	93	↗	42	~~increase~~ temp to +45c. Still bumpy.
125029	P6	2000ft ↗	13.3	55.3	93	—	45c	
125322	P6	3500ft	13.1	52	94		45c	interrupt P6
125509	P6	3500ft						re start P6
125941	P6	5500ft	12.2	37	92	—	42	end P6
130088	P7	5500ft	11.9	29	90		40	start P7
130150	P7	FL060						end P7
130343	R6	FL060	13.6	23.6	81	↘	40	start R6. Ramping down to +7c
130920	R6	060						end R6.
131055	P8	FL060	14.5	48	48		7c	start P8 ↘
131535	P8	3500ft	14.5	49	49		7c	end P8 @ 3500ft
133256		1600ft	13.8	59	42	↗	12c	ramping up to 40c. Searching for ships for NEON.
134158		1000ft	12.9	64	86	↘	40	ramping down to 8c
140700		5000ft	11.8	32	72	↘	35	to 7°c
141000		FL070						all stop end of science.

IR CAMERA FLIGHT LOG

Flight No.	B203
Date	1/6/66
Fitted Lens	45°
Active NUC	050126_NUC3
BPM Filename	PBTEST1

Campaign CAPEX
Operator Joss
Camera Angle 45° (wide angle lens)

Source Ref. Temp.	Hot 5°C
	Cold 40°C

DATA RECORDING		Run	Height	Remarks
Start Time	Stop Time	Number		
123750			1000'	Maybe a ship wake
123838			1000'	Big boat, maybe got it.
124036			1000'	A bit close, big boat though
1245			1000'	V - good ship wake
124808			1000'	Another ship wake. Missed the ship
125111			2800'	Good wake, missed most of the ship.
1254			2500'	Good ship wake.
1255			2800	very stormy wake
125610			2800	Very good ship wake
125710			2800'	Large boat, crossed stern on wake
130000			2800	Big boat + wakes
1305 ish	130834		5000'	Multiple wakes + boats.
	Video recorded, but no time stamp			
	Steve D gave verbal time stamp			
	Post flight cal.			
145827	30°C			
145927	34°C			
150027	37°C			
150127	39°C			
150227	41°C			
150327	43°C			
150427	45°C			
150527	47°C			
150627	49°C			
150727	51°C			
150827	52°C.			
150927	54°C.			
151027	55°C.			
151127	56°C			

Flight Manager's Instrument Status Log

Flight No. **B** 203 Date: 1st June 2006

Instrument	Operated	Instrument	Operated
Navigation		**Cloud Physics**	
INU	**Y**	**Probes**	
XR5M GPS	**Y**	FFSSP	**Y**
Cruciform GPS	**Y**	PCASP	**Y**
Satcom C	**Y**	2D-P	**Y**
Satcom H	**Y**	2D-C	Y
Thermometers		Cloudscope	**N**
De-Iced Temp	**Y**	SID 1	**Y**
Non De-Iced	**Y**	SID 2	**Y**
Heimann	**Y**	HVPS	**N**
Hygrometers		CIP25	**Y**
G. Eastern	**Y**	CIP100	**N**
J. Williams	**Y**		
Nevzorov	**Y**		
TWC	**N**	**Racks:**	
FWVS	**N**	INC	**N**
Radiometers		CCN / CPC	**Y**
Upper Clear	**Y**	CVI	**Y**
" Red	**Y**		
" Silicon	**Y**		
" SHIMS	**Y**	**Aerosol**	
Lower Clear	Y	PSAP	**Y**
" Red	**Y**	Nephelometer	**Y**
" Silicon	**Y**	Filters	**Y**
		AMS	**N**
Large Radiometers			
IR Camera	**Y**		
TAFTS	**N**	**Others:**	
MARSS	**Y**	AVAPS	**N**
DEIMOS	**N**	IR Camera	**Y**
ARIES	**Y**	NIR TDLAS	N
SWS	Y	2BT O3	N
Chemistry		VACC	N
Ozone	Y	PEROXIDE	N
SO2	N	Formaldehyde	N
NOX	Y	ADA	N
CO	Y	CPI	N
ORAC	N	Noxy	N
PAN	N	PTRMS	N
PERCA	N	Bag Sampling	N
WAS	N	Tube Sampling	N

Faults / Incidents Log

Flight No. B203
Date: 1st June 2006

Instruments

1. Deiced temperature intermittent. Traced in flight to DLU board or its connectors.

2. SATCOM – C initially reported “CMOS clock error”. This message cleared itself, but only 50% of messages from the ground to the aircraft received ok (discovered with hindsight).

Aircraft

Satcom Calls

1. a/c to ops, Beja

MISSING LOG SHEETS:

The following log sheets are not available for flight B203:

Log	Reason
Cloud Physics Processing	Awaiting processing completion
Core Chemistry	pre flight only, unmanned operation on auto calibrate so no In Flight log
CVI	No log is ever taken for CVI
IR Camera Processing log	IR Camera Processing log not currently available

VIDEO RECORDINGS:

3 x Forward Facing Cameras
1 x Rearward Facing Cameras
1 x Rear/Downward Facing & IR Cameras
1 x IR camera

Digital8 video recordings from this flight reside with :

Dave Kindred

EU Aircraft Liaison Officer
Observations Based Research
Jupiter Wing J-M-W014
Met Office
FitzRoy Road
Exeter
Ex1 3PB
UK

Tel: +44 (0)1392 88 4285
Fax: +44 (0)1392 88 5681

E-mail: dave.kindred@metoffice.gov.uk